



European-American children's intergroup attitudes about peer relationships

Heidi McGlothlin*, Melanie Killen and Christina Edmonds
 University of Maryland, USA

Intergroup attitudes were assessed in European-American first grade ($M = 6.8$ years) and fourth grade ($M = 9.9$ years) boys and girls ($N = 94$) to test hypotheses about implicit racial biases, perceptions of similarity between peer dyads, and judgments about cross-race friendships. Two assessments, an ambiguous situations task and a perceptions of similarity task, were administered to all participants. Contrary to prior findings, participants did not display implicit racial biases when interpreting children's intentions to commit a negative moral transgression towards a peer. Implicit biases were revealed, however, when asking children to judge cross-race friendship potential. The findings on children's similarity perceptions revealed that children focused on shared interests and race when judging similarity. Given that previous meta-analyses of prejudice have pointed to cross-race friendships as a significant predictor of a reduction in prejudice, these findings help to understand what may account for the relative infrequency of intergroup friendships in childhood. Further, the findings indicate the ways in which, implicit racial biases influence friendship decisions.

Recent studies have shown that children and adolescents evaluate racial exclusion as wrong, particularly in the context of friendship and peer group activities (Killen, Lee-Kim, McGlothlin, & Stangor, 2002; Killen & Stangor, 2001). These findings are consistent with other studies suggesting that changing social norms with regard to racial bias have lessened overt prejudice (Dovidio, Kawakami, & Beach, 2001; Schuman, Steeh, Bobo, & Kryson, 1997). While the decline in overt prejudice is a positive trend, recent studies using implicit attitude measures have indicated that racial biases emerge in indirect ways. Studies with adult participants have found that implicit biases, attitudes held by individuals without their explicit awareness, are revealed in situations, which are ambiguous or require an immediate response (Dovidio *et al.*, 2001; Gaertner & Dovidio, 1986; Hodson, Dovidio, & Gaertner, 2002). For example, European-American adults who score low on traditional (i.e. direct) measures of prejudice display anti-Black bias in situations involving whom to ask for help. Likewise, adults respond in a biased manner on the Implicit Association Tests (IAT), which measures response time in the pairing of

* Correspondence should be addressed to Heidi McGlothlin, Department of Human Development, 3304 Benjamin Building, University of Maryland, College Park MD 20742, USA (e-mail: hmclothl@umd.edu).

positive or negative words with Black or White faces. While implicit biases have been studied extensively with adult populations (Dovidio *et al.*, 2001), few studies have examined these forms of biases in children. From the handful of studies that have used IAT measures with children, conclusions are mixed as to the appropriateness of these techniques due to the verbal demands and fatigue associated with the procedure (Skowronski & Lawrence, 2001). Other indirect measures of racial attitudes, such as asking children to evaluate ambiguous situations involving Black and White characters, have shown promise.

Implicit biases in children

Two studies (Lawrence, 1991; Sagar & Schofield, 1980) have used ambiguous picture cards to test for intergroup bias in early and middle childhood and have found that European-American children judged the ambiguous behaviour of Black characters to be more negative than the same behaviour of White characters, especially in situations involving potentially aggressive behaviour. In the Sagar and Schofield study, only sixth grade males were interviewed. While their results run counter to the finding that prejudice (as measured by the multiple-response racial attitude measure (MRA), Doyle, Beaudet, & Aboud, 1988) declines at 9 years of age (Bigler & Liben, 1993; Doyle & Aboud, 1995), it is not known how younger children and females would evaluate interracial ambiguous situations. Lawrence (1991) found that younger (6–9 years old) European-American girls and boys interpreted ambiguous situations involving two Black characters as more negative than the same ambiguous situations involving two White children. This study, however, only used same-race encounters, and it is unclear how children of this age group would judge situations involving interracial encounters. Thus, the first aim of the present study was to examine how 6- and 9-year-old European-American children (boys and girls) interpret ambiguous interracial situations in which the potential transgressor varies by race.

Research has shown that young children make distinctions and evaluations based on skin colour or other racial cues (Aboud, 1988; Aboud & Levy, 2000; Bennett & Sani, 2003; Bigler & Liben, 1993; Doyle & Aboud, 1995; Hirschfeld, 1994; Katz, 1982). This has often been done using trait assignment tasks, in which children are asked to assign traits to children from their own group (in-group) and from another group (out-group). As described above, children have also been found to reject race as a reason to exclude using explicit measures (Killen *et al.*, 2002). What is not well known is the extent to which race enters into children's implicit decision-making about friendship, peer interactions, and familiar everyday situations. Ambiguous picture cards depicting children in peer interaction situations provide an implicit measure for determining whether the race of the protagonist influences judgments about the nature of the social exchange. For this study, we chose four potential moral transgressions in familiar, everyday settings and created ambiguous situations, in which one child could be committing a transgression (e.g. taking money from another child) or could be doing something without negative intentions (e.g. giving fallen money back to the person who dropped it). We tested whether the race of the protagonist influenced how children evaluated the situation.

Based on previous findings with ambiguous picture cards (Lawrence, 1991; Sagar & Schofield, 1980), as well as studies on racial stereotyping (Bigler & Liben, 1993), we predicted that children would attribute negative intentions to a Black child portrayed in a picture more often than to a White child. Age-related hypotheses were open, given

the conflicting findings related to prejudice in children. According to Aboud (1988), first grade children display more bias than fourth grade children. Previous studies using ambiguous situations, however, have found bias in children as old as 12 years.

In addition, we examined children's expectations about the potential for friendship between the characters in the scenarios. While friendships have numerous beneficial effects on children's lives in general, cross-race friendships extend this positive scope in that they have been found to be a significant predictor for reduction of prejudice (Pettigrew & Tropp, 2000; Schofield, 1995; Schofield & Eurich-Fulcer, 2001; Slavin & Cooper, 1999). Having a friend of a different race helps children to understand that not all individuals of a group are the same (i.e. variability within groups), and that individuals of different races may share similarities even though they differ with regard to skin colour. Because friendships entail an emotional bond, having a friend of a different race also raises a child's awareness of and sympathy for the experiences associated with prejudice when instances of racial prejudice are made apparent in a child's life.

In fact, studies have shown that while cross-race friendships are much less frequent than same-race friendships (Aboud, Mendelson, & Purdy, 2003; Graham & Cohen, 1997; Hallinan & Teixeira, 1987b; Hartup, 1983; Howes & Wu, 1990), they are similar in quality on a wide range of measures, including companionship and reliable alliance (Kerner & Aboud, 1998). Nonetheless, children evaluate cross-race peers less positively than same-race peers (Graham & Cohen, 1997; Sagar, Schofield, & Snyder, 1983; Schofield & Whitley, 1983; Singleton & Asher, 1979). Thus, while cross-race friendships are one key to reducing prejudice, they appear to be rare (Aboud *et al.*, 2003; Graham & Cohen, 1997; Hallinan & Teixeira, 1987a; Singleton & Asher, 1979). Research has further shown that the cross-race friendships that do form decline in frequency over the elementary school years (Aboud *et al.*, 2003; Hallinan & Teixeira, 1987a; Shrum, Cheek, & Hunter, 1988). Thus, we were interested in determining children's judgments regarding the friendship potential for cross-race dyads and the extent to which this type of judgment was related to participants' interpretations of the motives of the protagonists.

We predicted that in situations involving a Black perpetrator, friendship would be judged as less possible due to the negative interpretation of the behaviour of the Black character. Based on findings that girls are more sensitive to issues of exclusion than are boys, it might be predicted that girls would judge the potential for friendship as higher than would boys (Killen & Stangor, 2001). Studies investigating cross-race friendships, however, have reported that girls have fewer cross-race friendships than do boys (Hallinan & Teixeira, 1987b). Therefore, it was an open question as to whether boys or girls would view the potential for cross-race friendships in negative or positive terms when evaluating ambiguous pictures.

Perceptions of intergroup similarity

Another way to investigate children's use of race as a factor in peer situations is to assess children's perceptions of intergroup similarity, that is, the similarity of cross-race and same-race peer dyads. In addition to assessing children's evaluations of ambiguous situations, we asked children to make similarity judgments about same-race and cross-race peer dyads that did or did not share a sports interest. Greater perceived similarity between members of a group outside of one's own has been associated with stereotyping (Ryan, Park, & Judd, 1996). This phenomenon, what social psychologists have labelled the '*out-group homogeneity effect*', is the result of viewing members of

a group other than one's own as all alike, with little or no variation between members, while recognizing that members of one's own group vary on numerous dimensions. For example, girls may perceive girls as being very different (loud, quiet, aggressive, passive) but may view boys as all the same (aggressive). Negative outcomes of out-group homogeneity are stereotyping and making judgments about others based only on group membership. Although out-group homogeneity is a common finding in adult populations, little is known about the nature of children's perceptions of out-group members, particularly regarding race (for non-race examples, such as nationality or ethnicity, see Barrett, Wilson, & Lyons, 2003; Bennett, *et al.*, 2004; Nesdale, Maass, Griffiths, & Durkin, 2003). We hypothesized that children who showed implicit biases when evaluating ambiguous pictures would also perceive greater similarity for out-group dyads than for in-group dyads, thus demonstrating an out-group homogeneity effect.

Assessments of perceived similarity have consisted of rating the similarity of same-race or cross-race peer dyads (Doyle & Aboud, 1995; Katz, Sohn, & Zalk, 1975). In past studies, children have not been given any other information on which to base the similarity decision except for physical characteristics, the most obvious of which is skin colour since all other cues (e.g. facial expression, clothes) are controlled. In the present study, we modified the existing methodology by adding information about whether or not same-race and cross-race dyads shared the same sports interests.

We hypothesized that, overall, children would focus on the information presented (i.e. a shared sports interest), rather than race, when making similarity judgments about pairs of children. We predicted that children would judge peer dyads who shared the same interest as more similar than peer dyads who did not share the same interest; however, it was also predicted that the cross-race peer dyads with a shared interest would be perceived as less similar than the same-race peer dyads with shared interests. This was the important comparison for testing the extent to which race or shared interest had a greater influence on children's perceptions of similarity. Furthermore, as found in previous studies, it was expected that European-American children would judge Black peer dyads as more alike than the White peer dyads (Ryan *et al.*, 1996), especially when the dyads held different interests, supporting Ryan *et al.* theory about the out-group homogeneity effect. We also predicted that younger European-American children would use skin colour as a justification for their similarity ratings more often than would older European-American children. Furthermore, we predicted that skin colour would be used more often as a reason for similarity or dissimilarity for the different-race peer dyads and the Black peer dyads than for the White peer dyads. In other words, skin colour would not be salient for European-American children when viewing the in-group (e.g. the White peer dyads) but would be attended to when viewing the out-group (e.g. the Black peer dyads) and the different-race dyads.

We also examined how 'perceptions of similarity', with regard to race, impact children's decision-making about cross-race friendships. How do children weigh various pieces of information, such as shared interests or shared race when making decisions about friendships? What is the relative importance of having the same skin colour compared with sharing interests in activities? It was expected that shared interests and shared race would elicit the highest probability of friendship, while unshared interests and unshared race would have a lower probability of producing friendships. Hypotheses concerning the possibility of friendship for same-race/different-interest pairs and different-race/same-interest pairs were that, with age, European-American children would focus on interest rather than race, leading older European-American children to

rate different-race/same-interest peer dyads as more likely to be friends than same-race/different-interest peer dyads.

We administered three tasks to all children: an ambiguous pictures task, a filler task, and a perceptions of similarity task. These tasks provided implicit or indirect measures of intergroup bias in several friendship and peer contexts. These contexts included four potential moral transgressions, along with six peer dyads that did and did not share a sports interest. Our participants were European-American children at first and fourth grades, attending a mixed ethnicity school district where there exists daily opportunities for cross-race peer encounters. (We interviewed minority as well as majority participants at our school sites. Given the complexity of the findings for the two groups, the findings for the minority data are described in a separate report, see Margie, Killen, Sinno, & McGlothlin, 2005). Thus, the present study was designed to assess children's racial biases using indirect measures of racial bias, along with measures of children's evaluations regarding the potential for cross-race friendships.

Method

Participants

Participants included 94 European-American students attending two mixed-ethnicity public schools in a suburban area of a large mid-Atlantic city. There were 52 first-graders ($M = 6.78$ years, $SD = 0.33$, range 6.2–7.8) including 19 females and 33 males. There were 42 fourth-graders ($M = 9.89$, $SD = 0.35$, range 9.2–11.0) including 20 females and 22 males. The students were from primarily middle-class and working-class backgrounds as determined by the school district school records. The ethnic make-up of the first school was: 65% European-American, 14% African-American, 8% Hispanic, and 9% Asian-American. The second school was: 30% European-American, 29% African-American, 36% Hispanic, and 5% Asian-American. Preliminary analyses revealed no significant differences between children's responses from the two schools, and thus the data from both schools were combined for all subsequent analyses. Parental permission forms were distributed at the schools and all students who were given parental permission to participate were included in the study.

Procedure and assessments

Trained research assistants individually interviewed each child for approximately 30 minutes in a quiet room at the child's school. All children were informed that the interviews were confidential and anonymous and that there were no right or wrong answers. The interview itself consisted of three tasks given in the following sequence, the ambiguous situations task, a filler task, and the perceptions of similarity task. Because the similarity task asked children to focus on the similarities and differences between individuals in which skin colour and shared interests were the only two variables to consider, it was possible that this task would prime children to focus on skin colour in the ambiguous situations task. Therefore, the order of the tasks was not counterbalanced in order to avoid this potential priming effect.

Ambiguous situations task

The ambiguous situations task was presented to the children first. For each vignette, participants were shown $8\frac{1}{2} \times 11$ inch (21.59×27.94 cm) brightly illustrated picture cards that depicted an ambiguous situation in which a transgression may or may not have occurred (see Fig. 1). There were four ambiguous situations which reflected

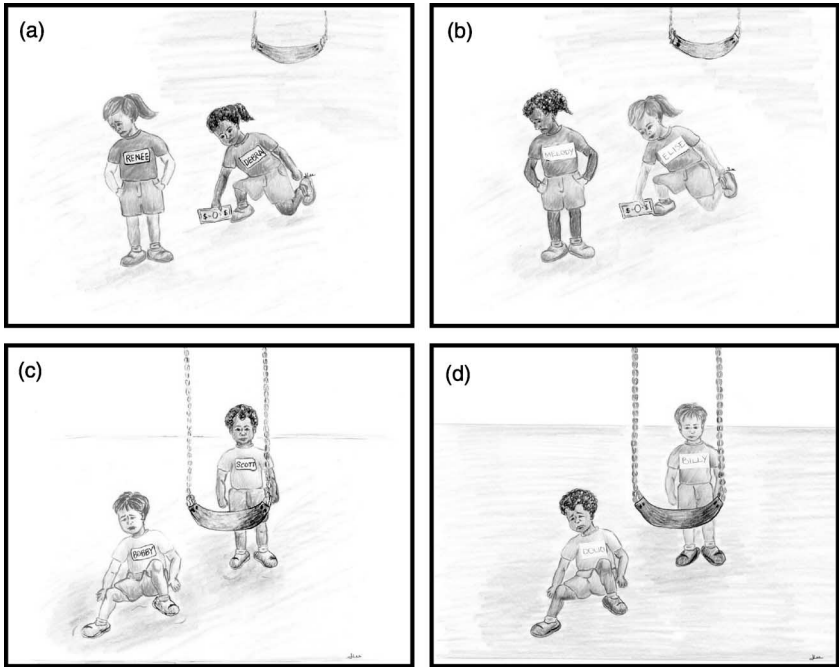


Figure 1. Picture cards used in the ambiguous situations task (money and swings scenarios).

potential transgressions: (1) money; (2) toys; (3) academic; and (4) swings. For the money scenario, the picture showed two children outdoors. A dollar bill was on the ground. One child was bending down, reaching for the money, and the other child was standing with his pockets hanging out (see Fig. 1, cards 'a' and 'b'). For the toys scenario, the picture showed two children sitting side-by-side at a table. One child had an assortment of toys in front of him. The other child was sitting beside him with no toys. For the academic scenario, one child was sitting at a desk with a sheet of paper in front of him that had $2 + 2 = 4$ written on it. The other child's paper had $2 + 2 = ?$ written on it, and his head was turned in the direction of first child's paper. For the swings scenario, the picture showed two children on a playground. One child was behind a swing and another child was on the ground in front of the swing (see Fig. 1, cards 'c' and 'd').

For each situation there was a version in which a European-American child was the potential perpetrator and another version in which an African-American child was the potential perpetrator. As depicted in Fig. 1, the picture cards for both versions were identical except for the race of the children. In each picture card the potential perpetrator was depicted with an expressionless face in order to add to the ambiguity of each situation. In addition, the gender of the scenario character was matched to the gender of each participant. Participants received all combinations of protagonist and victim, with half of the situations presented before the filler task and the remaining four situations presented after the filler task. Story orders were counterbalanced. Half of the participants viewed the money situation with the Black protagonist first and the other half viewed the money situation with the White protagonist first. Each half (before and after the filler task) of the ambiguous situations task consisted of two situations involving a Black protagonist and two involving a White protagonist. For example,

Order 1 consisted of the following presentation: money-Black protagonist, toys-White protagonist, academic-White protagonist, swings-Black protagonist, filler task, money-White protagonist, toys-Black protagonist, academic-Black protagonist, and swings-White protagonist.

There were seven dependent measures for each of the ambiguous situations. The first assessment, *interpretation*, asked participants to make a judgment about what is taking place in the picture. Participants were asked: 'What is happening in this picture?' The evaluations were coded based upon whether they saw the potential perpetrator as doing something positive/neutral (0 = *positive or neutral*) or negative (1 = *negative*). Positive and neutral interpretations were combined due to the low occurrence of neutral interpretations. For each situation, less than 15% of participants reported a neutral interpretation. The second assessment, *initial event rating*, asked participants to rate their interpretation of the potential protagonist's intentions using a Likert scale (-4, -3, -2, -1, 0, +1, +2, +3, +4) which corresponded to -4 = *very, very bad*, to 0 = *neither good/nor bad*, to +4 = *very, very good*. The Likert scale card depicted smiley faces, which ranged from a big frown (negative end of the scale) to a neutral expression (mid-point) to a big smile (positive end of the scale) with numbers associated with each face along the scale. Participants were asked: 'How good or bad is he/she for doing that?' The third assessment, *subsequent action evaluation*, measured the consequent action of the potential perpetrator. Participants were asked: 'What is X (name of potential perpetrator) going to do now?' The evaluation was coded in the same way as the interpretation assessment (0 = *positive/neutral*, 1 = *negative*). Positive and neutral interpretations were again combined due to the low occurrence of neutral attributions. The fourth assessment, *subsequent event rating*, asked participants to rate the interpretation of the subsequent event using the same Likert scale as above. Participants were asked: 'How good or bad is he/she for doing that?'

The final three assessments measured evaluations of potential friendships for the characters in the scenarios. The first of the three assessments, referred to as *friendship potential*, asked participants: 'Do you think X (name of potential perpetrator) and Y (name of potential victim) were friends before?' Responses of *no* were coded as 0, and responses of *yes* were coded as 1. The next assessment, referred to as *subsequent friendship potential*, asked participants to judge the possibility of friendship after the subsequent action of the potential perpetrator (0 = *no*; 1 = *yes*): 'Do you think they could be friends now?' The final assessment, *friendship potential reasoning*, asked participants for their reasoning as to why they could or could not be friends: 'Why can/can't they be friends now?' The coding categories were the following: 1 = *transgression*, 2 = *reconciliation*, 3 = *friendship*. For *transgression*, the participant focused on the transgression and the inability of the two individuals in the scenario to remain or become friends because of the transgression. An example would be: 'You can't be friends with someone who cheats.' For *reconciliation*, the participant recognized that there was a transgression, but the two characters in the scenario could still be friends through an act of reconciliation or because the transgression was not severe enough to prevent friendship. An example would be: 'He shouldn't have pushed him, but he did apologize.' For *friendship*, the participant focused on the friendship rather than the possibility of a transgression and, in fact, believed no transgression had taken place. An example would be, 'They can be friends because he was picking up the money to give it back.'

Filler task

In order to provide a distraction between the two versions of the picture cards (Black perpetrator, White perpetrator), a filler task was created and administered half-way during the ambiguous situations task. This task involved asking children to rate how much they like reading, listening to music, drawing, eating pizza, riding a bicycle, and working on math problems. Each card depicted a colourful computerized drawing of the activity. Children were asked to rate each activity using a 3-point Likert scale card with a smiley face (1 = *like a lot*), a neutral face (0 = *like a little*), and a frowning face (-1 = *don't like*).

Perceptions of similarity task

In the perceptions of similarity task, participants were shown six pairs of 4 × 6 inch (10.16 × 15.24 cm) illustrated picture cards in sequential order. A pair of cards for each condition (same-race Black/shared-interest, same-race Black/non-shared interest, same-race White/shared-interest, same-race White/non-shared interest, cross-race/shared-interest, cross-race/non-shared interest) was presented side-by-side and showed two children who were identical in dress and expression. Three of the pairs depicted children with identical sports icons in the lower-right corner in order to illustrate that the pair shared the same interest in a sports activity. One pair had an icon of a tennis racket, another of a volleyball, and another of a softball for the female version and a baseball for the male version. The other three pairs of children also had sports icons in the lower-right corner, but one child in each pair had a red circle with a line drawn through it over the sports icon to illustrate that the pair did not share the same interest in the sports activity. The sports icons in these pairs consisted of a golf club, a soccer ball, and a basketball. Two pairs of children consisted of a White peer dyad (two European-American children), two pairs were of a Black peer dyad (two African-American children), and two pairs were of a cross-race peer dyad (an African-American child and a European-American child). Within each racial grouping, one pair shared the same interest in a sport and one pair did not share the same interest. For instance, one pair of African-American children both played tennis, while the other pair of African-American children had one child who played softball and another child who did not play softball. Upon presenting the picture cards, the interviewer said the names of the two children and whether or not each played the particular sport pictured. As an example, for one pair the interviewer said, 'This is Wendy. She likes to play basketball. And this is Emily. She doesn't like to play basketball.' Presentation of the cards was counter-balanced. Half of the participants viewed the White peer dyad with different interests first, while the other half viewed the Black peer dyad with different interests first.

Four dependent measures were used to assess similarity and the potential for friendship between the children depicted in the scenario for each of the situations. The first assessment, *rating of similarity*, asked participants to rate the similarity of the two children using a Likert scale (1 = *not at all alike*, 6 = *very, very alike*). Participants were asked: 'How much are X and Y alike or different?' The next assessment, *comparison*, measured the participants' reasons for why the pair was either alike or different and asked: 'Why do you think X and Y are/are not alike?' The coding categories were the following: 1 = *physical characteristics other than race*; 2 = *race/skin colour*; and 3 = *sports interest*. For *physical characteristics other than race*, an example would be: 'They are wearing the same shirts.' For *race/skin colour*, an example would be: 'They both have brown skin.' For *sports interest*, an example would be: 'They don't like to play the same game.' The third assessment, *friendship potential*, asked

participants to judge the potential friendship between the two characters in the scenario by asking: 'Do you think they could be friends?' Responses of *no* were coded as 0, and responses of *yes* were coded as 1. In the final assessment, *reason for potential friendship*, participants were asked to justify their answer to the friendship potential question and were asked: 'Why do you think they could/couldn't be friends?' Coding categories were the following: 1 = *physical characteristics other than race*, 2 = *race/skin colour*, 3 = *sports interest*, and 4 = *other shared interest*, which referred to shared interests outside of sports interests (i.e. 'Even if they don't play golf, they might like playing something else together').

Reliability coding

Reliability coding was calculated on 25% of the judgment and reason data for the ambiguous situations and the reason data for the similarity scenarios. Interrater agreement using Cohen's κ coefficient was .97 (percent agreement = .98) for the *interpretation* and *subsequent action evaluation* in the ambiguous situations task. Interrater agreement was .98 (percent agreement = .99) for the *friendship potential reasoning* in the ambiguous situations task. For the similarity scenarios, interrater agreement for *comparison* was .97 (percent agreement = .99) and for *reason for potential friendship* was .93 (percent agreement = .96).

Results

All hypotheses were tested using repeated measures ANOVAs. Researchers have successfully used ANOVA-based procedures to analyse categorical judgment and justification data. These procedures are robust and preferable to log-linear techniques when analyzing dichotomous data as well as repeated measures designs (see Wainryb, Shaw, Laupa, & Smith, 2001). All follow-up tests to examine interaction effects were *t* tests. The Likert scale for the ambiguous situations task was converted from the negative (-4, -3, -2, -1, 0, +1, +2, +3, +4) to a positive scaling (1, 2, 3, 4, 5, 6, 7, 8, 9), with 1 = *very, very good* to 9 = *very, very bad*, for purposes of analyses.

Ambiguous situations task

Implicit biases in interpreting ambiguous situations

It was hypothesized that racial biases would be revealed if children judged the intentions of the child in the ambiguous picture more negatively when the potential perpetrator was Black than when the potential perpetrator was White. This hypothesis was tested by conducting 2 (gender of participant: female, male) \times 2 (grade of participant: first, fourth) \times 4 (story: money, toys, academic, swings) \times 2 (race of potential transgressor: Black, White) ANOVAs with repeated measures on the last two factors for the interpretation, initial event rating, subsequent action evaluation, and subsequent event rating assessments.

Analyses revealed no overall main effects or interaction effects involving the race of the potential transgressor. In other words, the actions of the potential perpetrator were judged as negative just as often for the White character as for the Black character. Moreover, children did not use race to rate the transgressor's actions within each type of story. Thus, contrary to our expectations, children did not display implicit racial biases when rating the ambiguous actions of children in the stories.

It was also predicted that even if the initial acts in the situations were interpreted as the same regardless of the race of the potential transgressor, implicit biases would be elicited when participants judged what would happen next (subsequent action evaluation) - would the perpetrator redeem the transgression or would the perpetrator continue to act negatively? Analyses indicated that, again, race was not a factor in children's interpretation of the follow-up act. Analyses were also conducted using a between-subjects design on the first four dependent measures by splitting the sample into two groups based on the order of the ambiguous situations task. The judgments and ratings were then compared for each situation. As in the within-subject analyses, no evidence of bias was found.

In sum, contrary to our expectations, European-American participants, both first- and fourth-graders, did not display implicit racial biases when interpreting ambiguous situations involving White and Black characters as potential perpetrators. Nor did the participants display racial biases for the aggression situation involving pushing, contrary to what might be expected based on prior findings (Lawrence, 1991).

Evaluations of cross-race friendships in the ambiguous situations

In order to test our hypothesis that children's racial biases might influence friendship ratings, 2 (gender) $\times 2$ (grade) $\times 4$ (story) $\times 2$ (race of potential transgressor) ANOVAs were conducted with repeated measures on the last two factors for each question. Analyses of the friendship question, 'Were they friends before?', indicated no main effect or interaction effects involving the race of the potential transgressor. Overall, though, fourth-graders were less likely to view the dyad as being potential friends ($M = 0.53$) than were first-graders ($M = 0.69$), $F(1, 90) = 6.97$, $p < .01$. These findings indicate that with age, about half of the children viewed cross-race friendships as unlikely (independent of the race of the transgressor). Furthermore, although a majority of participants stated that a Black child and a White child could be friends before the ambiguous event had occurred, the range was large (M s = $0.23 - 0.88$), indicating that a significant number of participants did not view friendship as possible between the Black and White characters before the ambiguous event occurred.

Analyses of the friendship question, 'Could they be friends now?', revealed a Story \times Race \times Gender \times Grade interaction, $F(3, 270) = 2.81$, $p < .04$, showing that in the money situation fourth-grade males judged friendship as more probable when the potential perpetrator was White ($M = 0.77$) than when the perpetrator was Black ($M = 0.45$), $p < .005$, supporting our hypothesis that biases exist regarding cross-race friendship potential. Interestingly, as shown in Table 1, fourth-grade females ($M = 0.80$) more often than fourth-grade males ($M = 0.45$) reported that it was possible for the characters to be friends when the potential transgressor was Black in the money situation, $p < .021$. This gender difference was further documented by the finding that, with age, boys rejected the possibility of friendship when the potential transgressor was Black ($M = 0.79, 0.45$, for first grade, fourth grade respectively, $p < .015$).

Reasons for cross-race friendship potential in the ambiguous situations

Participants were also asked to explain why they thought the two characters could or could not be friends. We conducted 2 (gender) $\times 2$ (grade) $\times 4$ (story) $\times 2$ (race of the potential transgressor) ANOVAs with repeated measures on the last two factors for each of the three reasoning categories (transgression, reconciliation, friendship). A Story \times Race \times Gender \times Grade interaction, $F(3, 270) = 3.17$, $p < .025$, revealed that in

Table 1. Means for subsequent friendship potential in the Ambiguous Situations task

Gender by grade	Ambiguous situations by race							
	Money		Toys		Academic		Swings	
	Black	White	Black	White	Black	White	Black	White
Female	1st	M	0.79	0.84	0.79	0.89	0.79	0.84
		SD	(0.42)	(0.37)	(0.42)	(0.32)	(0.42)	(0.37)
	4th	M	0.80	0.60	0.70	0.60	0.65	0.45
Male		SD	(0.41)	(0.50)	(0.47)	(0.50)	(0.49)	(0.51)
	1st	M	0.79	0.76	0.91	0.79	0.64	0.67
		SD	(0.42)	(0.44)	(0.29)	(0.42)	(0.49)	(0.48)
Group	4th	M	0.45	0.77	0.73	0.64	0.41	0.41
		SD	(0.51)	(0.43)	(0.46)	(0.73)	(0.50)	(0.50)
	Totals	M	0.71	0.74	0.80	0.73	0.62	0.60
		SD	(0.45)	(0.44)	(0.40)	(0.51)	(0.49)	(0.49)

Note. $N = 94$. Black = Potential Black transgressor in story; White = Potential White transgressor in story. M = Mean; SD = Standard deviation. 0 = No; 1 = Yes.

the money situations, fourth-grade males reasoned that the transgression precluded friendship more often when the potential transgressor was Black ($M = 0.55$) than when he was White ($M = 0.23$), $p < .005$. In addition, fourth-grade males ($M = 0.55$) used this reasoning more often than fourth-grade females ($M = 0.20$) when the transgressor was Black, $p < .02$. These results confirmed our expectation that boys are more negatively biased about cross-race friendships than are girls. Furthermore, fourth-grade males reasoned that when the perpetrator was Black, the transgression precluded friendship more often than did first-grade males ($M = 0.21$), $p < .015$.

Supporting other findings that European-American girls did not attribute negative racial biases to intergroup encounters, a Race \times Gender interaction, $F(1, 90) = 9.81$, $p < .002$, indicated that girls viewed friendship as feasible (because no transgression occurred) more often when the potential perpetrator was Black ($M = 0.34$) than when she was White ($M = 0.24$), $p < .005$. A Race \times Gender \times Grade interaction further qualified this effect, $F(1, 90) = 6.87$, $p < .01$. While first-grade girls did not differ in their decision that friendship is possible because no transgression occurred between two versions of the situations, fourth-grade girls used this reasoning more often for the version with the Black perpetrator ($M = 0.36$) than for the version with the White perpetrator ($M = 0.18$), $p < .002$.

In sum, the analyses for children's responses about potential friendship revealed negative racial biases in older children's evaluations, and more so for boys than for girls.

Perceptions of similarity task

Rating of similarity

In order to test our hypotheses that children would focus on shared interests as well as skin colour when making similarity judgments about peer dyads, a 2 (gender of participant) \times 2 (grade of participant) \times 3 (race of peer dyad: cross-race, White, Black) \times 2 (activity: same, different) ANOVA with repeated measures on the last two factors was conducted on the ratings of similarity. Indicating that race was a factor in perceptions of similarity, a significant main effect for race was found, $F(2, 180) = 19.05$, $p < .001$, as shown in Table 2. The racial make-up of the peer dyad made a difference in how the peers were rated on measures of similarity, despite whether the characters shared an activity (e.g. soccer). The cross-race peer dyads ($M = 3.75$) were judged to be the least alike, $ps < .001$. In addition, our hypothesis regarding the out-group homogeneity effect was confirmed in that European-American children rated the Black peer dyads ($M = 4.30$) as being more alike than the White peer dyads ($M = 4.04$), $p < .001$. The influence of order of presentation on participants' ratings of out-group and in-group similarity was also examined, and there were no significant effects. Regardless of whether the White peer dyad with different interests or the Black peer dyad with different interests was presented first, these European-American children rated the Black peer dyads as more similar than the White peer dyads. Thus, we found more racial biases in the direct comparisons of peer dyads of different races than we did when asking children about potential moral transgressions in ambiguous picture cards.

A significant main effect for activity, $F(1, 90) = 335.96$, $p < .001$, however, confirmed our hypothesis that children would not focus solely on race as the defining feature when determining the similarity of the peer dyads. The rating of likeness differed according to whether the peers had the same or different interests, independent of the racial make-up of the peer dyads. As predicted, children rated peer dyads with different interests ($M = 2.86$) as being less alike than peer dyads with the same interests

Table 2. Means for ratings of similarity in the perceptions of similarity task

Gender By Grade	Peer Dyads Activity Type							
	Black peer dyad		White peer dyad		White peer dyad		Cross-race peer dyad	
	different activities		same activities		different activities		different activities	
Female	1st	M	2.74	5.68	2.26	5.63	2.11	4.95
		SD	(1.24)	(0.58)	(1.37)	(0.68)	(1.24)	(1.47)
	4th	M	3.15	5.60	2.85	5.55	3.00	5.15
		SD	(0.81)	(0.50)	(0.99)	(0.51)	(0.97)	(0.67)
Male	1st	M	3.39	5.18	2.61	5.15	2.45	4.76
		SD	(1.60)	(0.95)	(1.37)	(1.00)	(1.35)	(1.20)
	4th	M	3.50	5.18	3.18	5.27	3.00	4.73
		SD	(0.86)	(1.10)	(1.10)	(0.83)	(0.98)	(1.32)
Group	Totals	M	3.23	5.37	2.72	5.36	2.63	4.87
		SD	(1.25)	(0.87)	(1.26)	(0.83)	(1.21)	(1.19)

Note. N = 94, M = Mean, SD = Standard deviation. 1 = not at all alike; 6 = very, very alike.

($M = 5.20$), $p < .001$. A significant Activity \times Gender interaction, $F(1, 90) = 7.67$, $p < .007$, indicated that males and females differed in how they rated the peer dyads when the characters held interests in either the same or different activities. Follow-up analyses revealed that females ($M = 5.43$) rated peer dyads with shared interests as more similar than did males ($M = 5.04$), $p < .012$.

A significant Race \times Activity interaction was found, $F(2, 180) = 4.26$, $p < .016$. Confirming our hypothesis that children would use information other than race in their judgments of similarity, the cross-race dyad that shared an activity interest was rated as more similar than the cross-race dyad that did not share an activity interest, $p < .001$ (see Table 2 for all similarity ratings). The same pattern was found for the same-race peer dyads, $ps < .001$. Thus, children used non-racial information for their judgments of similarity of the dyads. Further analyses revealed that when the dyads were composed of same-race peers who had similar interests, little difference was found in how they were rated. In other words, in peer dyads in which both children were Black or both children were White and they both had the same interests, they were rated as being alike with little difference in their level of similarity on the Likert scale. When the activities were different, however, the out-group homogeneity effect was found. Thus, confirming our hypotheses, European-American children rated the Black peer dyad who did not share an interest in the same activity ($M = 3.23$) as being more similar than the White peer dyad who did not share an interest in the same activity ($M = 2.72$), $p < .001$.

Analyses comparing cross-race dyads with same-race dyads also revealed evidence of out-group homogeneity when the dyad did not share activity interest. As hypothesized, when the activities were the same, the cross-race peer dyad ($M = 4.87$) was rated as being less alike than both the Black peer dyad ($M = 5.37$), $p < .001$, and the White peer dyad ($M = 5.36$), $p < .001$. When the activities were different, however, the cross-race peer dyad ($M = 2.63$) was rated as being significantly less alike in comparison to the Black peer dyad ($M = 3.23$), $p < .001$, but not in comparison to the White peer dyad ($M = 2.72$). In other words, European-American children did not differ in their rating of the White peer dyad and the cross-race peer dyad, suggesting that they focused on the different activity interest, and not on race for the same-race White dyad comparison. On the other hand, children viewed the Black peer dyad as more similar than the White peer dyad even when they did not share the same activity interest. This indicated that European-American children perceived less variability between two Black children than between two White children when interests were controlled (shared race was a factor in the similarity decision rather than dissimilar interests). In the next section, analyses of the justifications given to support similarity ratings will further illuminate these findings.

Reason for rating of similarity

In order to test our hypotheses about the reasons that children gave for their perceptions of similarity, we conducted a 2 (gender) \times 2 (grade) \times 3 (race of peer dyad) \times 2 (activity) ANOVA with repeated measures on the last two factors on each of the three reasoning categories.

Non-racial physical characteristics. A significant main effect for race was found, $F(2, 180) = 12.62$, $p < .001$, indicating that despite the activity, that is, whether the characters shared interests, the racial make-up of the peer dyad made a difference in whether or not the participants used physical characteristics (clothes, hair) as a reason for their rating (see Table 3). Non-racial physical characteristics were given more often as a reason for the rating of similarity for the Black peer dyads ($M = 0.28$) than for the White peer dyads ($M = 0.22$), $p < .030$. There were no significant differences for

Table 3. Proportions of reasons used for Ratings of Similarity

		Peer dyads by racial composition		
		Black peer dyads	White peer dyads	Cross-race peer dyads
Physical characteristics				
Total	<i>M</i>	0.28	0.22	0.25
	<i>SD</i>	(0.26)	(0.24)	(0.25)
Race/skin colour				
Total	<i>M</i>	0.10	0.09	0.14
	<i>SD</i>	(0.17)	(0.16)	(0.20)
Sports interests				
Total	<i>M</i>	0.61	0.69	0.61
	<i>SD</i>	(0.35)	(0.32)	(0.35)

Note. *N* = 94, *M* = Mean, *SD* = Standard deviation.

the use of this reason between the White peer dyads and the cross-race peer dyads. Therefore, physical characteristics were used more often by European-American children for the Black peer dyads than for the ratings of the White peer dyads or the cross-race peer dyads.

Race/skin colour

Because no gender effect was found in the use of Race/Skin Colour as a reason for similarity or dissimilarity, a 2 (grade) \times 3 (race of peer dyad) \times 2 (activity) ANOVA was conducted without gender. A significant main effect for race, $F(2, 184) = 3.52$, $p < .032$, indicated that despite the activity, the racial make-up of the peer dyad made a difference in whether or not race/skin colour was used as a reason for the rating of similarity (see Table 3). Race/skin colour was used least as a reason for similarity or dissimilarity for the White peer dyads ($M = 0.09$), especially when compared with the cross-race peer dyads ($M = 0.14$), $p < .008$. Further analyses showed that when the characters in the scenario had different interests, race/skin colour was used significantly more often to explain ratings of difference for the cross-race peer dyads ($M = 0.15$) than for the White peer dyads ($M = 0.08$), $p < .006$, but not for the Black peer dyads ($M = 0.10$). As predicted, then, race/skin colour was a more salient trait for European-American children when rating cross-race peer dyads and Black peer dyads.

Sports interests

A significant main effect for race, $F(2, 180) = 4.67$, $p < .011$, indicated that despite the activity, the racial make-up of the peer dyad made a difference in whether participants chose sports interests as a reason for their rating of similarity or dissimilarity (see Table 3). Sports interests was used as a reason significantly more often for the White peer dyads ($M = 0.69$) than for either the Black peer dyads ($M = 0.61$), $p < .013$, or the cross-race peer dyads ($M = 0.61$), $p < .002$. This confirmed our expectation that participants would focus on non-racial cues for the White peer dyads.

A significant Race \times Activity interaction was also found, $F(2, 180) = 3.71$, $p < .026$. When the dyads had different interests, sports interests were used as a reason more often for the White peer dyads ($M = 0.68$) than for the cross-race peer dyads ($M = 0.54$), $p < .001$, and the Black peer dyads ($M = 0.58$), $p < .023$. No

interaction was found for race and activity when peers held the same interests. Thus, the racial make-up of the dyad did not play a factor in whether or not sports interests was used as a reason for the rating of similarity in dyads for which the characters held similar interests. When the characters held different interests, however, sports interests was used most often for the in-group (i.e. the White dyads).

Friendship potential

In order to test hypotheses regarding children's judgments of friendship potential among the different dyads, a 2 (gender of participant) $\times 2$ (grade of participant) $\times 3$ (race of peer dyad) $\times 2$ (activity) ANOVA with repeated measures on the last two factors was conducted. The results indicated that children judged potential friendships in the scenarios differently according to whether or not they shared interests in the same activity, but not according to the racial makeup of the dyad.

A main effect for activity, $F(1, 90) = 22.24, p < .001$, indicated that despite the racial make-up of the peer dyads, the friendship potential differed according to whether the peers held the same interests or different interests. The participants believed that the pairs of children with interests in the same activities ($M = 1.00$) were more likely to be friends than those with interests in different activities ($M = 0.83$), $p < .001$. Therefore, children not only rated those with the same interests as being more similar than those with different interests, but they also believed that common interests played a factor in the possibility of a friendship between the two children in each of the dyads.

A significant Activity \times Gender interaction, $F(1, 90) = 6.91, p < .010$, revealed that males and females differed in how they judged potential friendships when the characters held interests in different activities. Follow-up analyses showed that while males and females did not differ when the pairs shared the same interests, females ($M = 0.93$) believed there was a greater chance for the dyads who did not share sports interests to be friends than the males did ($M = 0.76$), $p < .001$.

In sum, children did not use race as a factor in their decisions about the possibility of friendship between the peer dyads. Although children did judge friendship potential as lower for the dyads with unshared interests, this judgment did not differ according to whether or not the two children shared race. In other words, the different-race dyads that did not share sports interests were judged as likely to be friends as same-race dyads that did not share sports interests.

Reason for potential friendship

In order to test hypotheses regarding children's reasons behind either the likelihood of friendship between the pairs, a 2 (gender of participant) $\times 2$ (grade of participant) $\times 3$ (race of peer dyad) $\times 2$ (activity) ANOVAs with repeated measures on the last two factors were conducted on each of the four reasoning categories. The results indicated that each of the reasons given for potential friendship differed according to a variety of factors.

Physical characteristics. A significant Race \times Grade interaction, $F(2, 180) = 4.49, p < .013$, indicated that first and fourth graders differed in how they used physical characteristics, such as, 'They can be friends because they wear the same clothes,' as a reason for potential friendship based upon the racial make-up of the dyad. In particular, they differed in how often they used physical characteristics for the Black dyads, $p < .001$. First-graders ($M = 0.12$) used physical characteristics significantly more often

than did fourth-graders ($M = 0.02$) as a reason for potential friendship for the Black dyads. Further follow-up analyses revealed that the grade effect was significant only for the Black dyad with different interests. For that dyad, first graders ($M = 0.18$) used physical characteristics more often than did fourth-graders ($M = 0.02$), $p < .001$.

A significant Race \times Activity interaction, $F(2, 180) = 3.77$, $p < .025$, indicated that participants differed in how they used physical characteristics as a reason for or against potential friendship, particularly when comparing the Black dyad and White dyad with different interests. Participants used physical characteristics less often for the White dyad ($M = 0.03$) than for the Black dyad ($M = 0.11$), $p < .038$. Therefore, physical characteristics were more salient when evaluating the Black dyads than when evaluating either the White dyads or the cross-race dyads, especially for younger children.

Race/skin colour. While the racial make-up of the dyads did appear to make a difference in whether or not race/skin colour was used as a reason for similarity or dissimilarity, no effect was found for race/skin colour when participants evaluated the potential for friendship. Thus, children used race/skin colour as a factor in judging the similarity of children, but this information was not cited as impacting their reasoning about potential friendships.

Sports interests. A significant Race \times Gender interaction, $F(2, 180) = 4.08$, $p < .019$, indicated that males and females differed in how they used sports interests as a reason for potential friendships among the pairs. Females used sports interests, such as, 'They can be friends because they play tennis together,' more often for the Black dyads ($M = 0.58$) than for the cross-race dyads ($M = 0.50$), $p < .026$. Females ($M = 0.58$) also used sports interests for the Black dyads more often than did males ($M = 0.45$), $p < .054$. No significant gender differences were found for the White peer dyads or the cross-race peer dyads. Therefore, females, compared with males, chose to focus on sports interests as a reason for friendship more often when the pairs were Black than when they were White or cross-race.

Non-sports related interests. A significant Race \times Gender interaction, $F(2, 180) = 3.32$, $p < .038$, indicated that males and females differed in how they used non-sports related interests as a reason for potential friendship according to the racial make-up of the dyad. An example of reasoning based on non-sports related interests is, 'Because it doesn't say they don't play other stuff together' (fourth grade female). Females ($M = 0.30$) used this category as a reason significantly less often for the Black peers dyads than did males ($M = 0.45$). In addition, females used this category as a reason significantly less often for the Black peer dyads ($M = 0.30$) than for the cross-race peer dyads ($M = 0.40$), $p < .050$. No differences were found for the White peer dyad ($M = 0.39$).

Discussion

The results of this study revealed that European-American children living in a mixed-ethnicity community displayed very few implicit racial biases when evaluating potential moral transgressions. That is, participants in this study did not expect a Black child to be more likely to cheat, push someone, steal, or refuse to share toys than they would expect a White child to initiate these transgressions. These findings are in contrast to previous reports of implicit racial biases (Lawrence, 1991; Sagar & Schofield, 1980) and

provide a different picture from the one gleaned from prior studies on children's racial stereotypes (Bigler & Liben, 1993) or attribution of negative traits to others based solely on racial background (Aboud, 1988). At the same time, there were indications that implicit racial biases were revealed when making judgments about potential cross-race friendships. Some participants, particularly older boys, were less likely to think that two children could be friends when the potential transgressor was Black than when he was White. These findings indicate that even when children do not hold implicit racial biases when evaluating moral transgressions, they appear to think differently about potential friendships between children of different racial backgrounds, particularly depending on their role in a peer exchange. This could help explain why it is that cross-race friendships decline with age even when children evaluate cross-race and same-race friendships along the same criteria (see Aboud *et al.*, 2003). Explicit assessments about cross-race and same-race friendships have also revealed few significant differences, reflecting a positive historical trend of declining prejudice and racism in North America (see Dovidio & Gaertner, 1986; Dovidio, *et al.*, 2001). At the same time, implicit biases regarding cross-race friendships are still prevalent and increase with age, as was demonstrated in this study.

The findings for the ratings of similarity among children further revealed the ways in which race continues to influence children's perceptions of cross-race relationships. When making comparisons between same-race and cross-race peer dyads who did not share an interest in sports, participants were more likely to view the out-group (Black dyads) as more similar than the in-group (White dyads). This finding provides developmental confirmation of the out-group homogeneity effect, typically documented in adults (Ryan *et al.*, 1996). The out-group homogeneity effect occurs when individuals assume more homogeneity (similarity) between members of the out-group than between members of the in-group. In this case, when everything was the same, except for race, European-American children viewed more similarity between two Black children than between two White children. This was true regardless of whether the participants viewed the two Black children first or the two White children first. It remains unclear if the out-group homogeneity effect is limited to the majority in-group's similarity ratings of the minority out-group. In other words, would African-American children view European-American dyads as more similar than African-American dyads? We have recently investigated this question and findings indicate that the out-group homogeneity effect is not evident in African-American children's ratings of similarity (Margie *et al.*, 2005).

Participants explained differences between White peer dyads that did not share sports interests in terms of their interests, whereas differences between cross-race peer dyads and Black peer dyads were viewed in terms of race or skin colour. Thus, although racial biases did not emerge in their interpretations of ambiguous situations, race was nevertheless attended to by European-American children when evaluating out-group similarity. This is consistent with findings by Bennett and Sani (2003) who have shown that race plays a role in how children encode others' behaviour. Judgments of potential friendship, however, were not driven by the racial makeup of the dyad. All children judged friendship as possible when the cross-race peer dyad shared the same sports interest.

Together, these findings illustrate that children's use of race as a factor in decision-making about friendship is complex. Situations involving the evaluation of ambiguous behaviour elicited implicit biases with regard to friendship potential even when biases were not evident in the interpretation of the behaviour. Race influenced children's

ratings of similarity of different-race and same-race peer dyads, but it was not a factor in their judgments of friendship potential. These findings contribute to the literature by pointing to implicit and subtle ways in which race continues to be a factor when children are making decisions about friendship and intergroup relationships. The findings for the potential for friendship in the similarity task were consistent with findings from research examining children's explicit biases (Killen *et al.*, 2002). Children did not view race alone as a legitimate factor in determining friendship. When the friendship decision was in the context of a situation involving ambiguous intentions and motives, however, race factored into children's decision-making about the potential for cross-race friendships.

While researchers have pointed to the importance of cross-race friendships for the reduction of prejudice (Pettigrew & Tropp, 2000), developmental research has shown that cross-race friendships decline with age (Aboud *et al.*, 2003). Our findings provide evidence to help understand this phenomenon. While the children in our sample did not display implicit racial biases regarding potential transgressors in peer situations, there was, nonetheless, an age-related decline in the judgment that cross-race peers could be friends, independent of the race of the transgressor in the story. The findings for the ratings of similarity also provided important information about friendship potential. As has been shown in the peer literature, similarity is a strong factor in children's choice of friends (Rubin, Bukowski, & Parker, 1998). Thus, it is necessary to understand the variables that contribute to perceptions of similarity when making friendship decisions.

Previous research (Doyle & Aboud, 1995; Katz *et al.*, 1975) asked children to make judgments about two children from different racial backgrounds (a White child and a Black child) with no other identifying information. In this study, we expanded the design by asking children to make similarity judgments for same race peer dyads (two White children and two Black children, in-group and out-group, respectively) as well as for cross-race peer dyads, all of whom were presented in two conditions, sharing a sports interest and not sharing a sports interest. In this way, it was possible to discern when children used race or another factor to make similarity judgments for all possible types of peer dyads. Indeed, the children in this study focused on shared sports interest more than race, contrasting the previous findings in which children used race as a factor for making similarity judgments (Doyle & Aboud, 1995; Katz *et al.*, 1975). Thus, in this study, European-American children did not use race exclusively as the reason for making decisions about similarity between peers. When evaluating peer dyads who did not share sports interests, however, race was used as a reason for similarity ratings for the out-group dyads (Black peer dyads).

What do the findings mean for assessments of children's prejudice and intergroup attitudes? First, these European-American children, who would be expected to hold racial stereotypes, based on the age norms reported in the literature, did not reveal implicit racial biases. Thus, one cannot assume that holding racial stereotypes results in racial biases. We did not explicitly measure racial stereotypes and this would need to be done to conclusively understand the relationship between prejudice, as measured by trait assignments, and implicit racial biases. Yet, these findings do suggest that prejudice is a multi-dimensional phenomenon, which requires multi-method assessments to understand its origin and developmental trajectory.

Although studies examining implicit bias in adults are prevalent, relatively few studies have examined implicit biases in children and adolescents. One reason for this discrepancy is that adult implicit bias measures are difficult to replicate with children.

The IAT, which is based on response time, is a common technique used to measure implicit bias with adult samples; however, the developmental appropriateness of these techniques for young children is questionable. Other researchers (Bigler & Liben, 1993; Nesdale, 1999) have used indirect methods involving the recall of stereotype-consistent and stereotype-inconsistent items to investigate stereotyping and bias in children. Our goal in the present study was to develop an indirect method of assessing racial bias in young children that is based on behavioural attributions, particularly those involving moral transgressions, and on judgments about cross-race friendships. This measure is in contrast to explicit assessments, which ask children directly about race (see Killen *et al.*, 2002), and in contrast to trait assignment techniques, which ask children to assign positive and negative adjectives to members of racial groups (see Doyle & Aboud, 1995). Although it is possible that children in this sample monitored their responses due to the within-subject nature of the study, analyses conducted using a between-subjects design indicated no differences in ratings of the Black protagonist and White protagonist across the situations. In other words, the participants who viewed the money situation with the Black protagonist first did not give more negative interpretations and ratings to this protagonist than did the participants who viewed the money situation with the White protagonist first. A full between-subjects design may be necessary for assessments with older children, however. Given the discrepant findings of the present study with previous studies of implicit bias using similar measures with children (e.g. Lawrence, 1991; Sagar & Schofield, 1980) and with adults (Gaertner & Dovidio, 1986), as well as with previous studies using trait assignment measures of prejudice (Doyle & Aboud, 1995), more studies are needed in order to determine the nature of prejudice in children and adolescents.

Our age and gender findings ran counter to the literature on racial prejudice. Rather than declining with age, biases about friendships increased with age in this study, and were more apparent for boys than for girls. While these gender findings were consistent with previous studies showing that European-American girls viewed exclusion based on race as more wrong than did European-American boys (Killen & Stangor, 2001), these findings contrast with prior work showing fewer cross-race friendships among girls than among boys. One reason that cross-race friendships decrease with age may be that implicit racial biases about friendship increase with age. These biases may pertain to homogeneity, which has been emphasized in the friendship literature as a criterion for the selection of friendship (Bukowski & Sippola, 2001). With age, children may perceive the potential for friendship as unlikely among cross-race peers due to the lack of homogeneous characteristics. Yet, our findings for the similarity task provide a hopeful alternative. When presented with dyads that shared (or did not share) sports interests, children focused on sports interest rather than race to make decisions about friendship potential. Emphasizing non-racial cues and interests may, therefore, help to re-define homogeneity criteria for children when making decisions about friendship.

Another factor that contributes to racial biases is the extent to which children are exposed to other children who are different from them in terms of ethnicity (Pettigrew & Tropp, 2000). The children in our sample were from mixed-ethnicity schools that varied from 32% to 64% minority backgrounds. Thus, absence of racial biases could reflect a tolerance fostered in these school environments through various programs within the school and through personal experience that helps children become more sensitive to those who are different from them. Prior studies revealing racial stereotyping, however, have also been conducted in mixed-ethnicity schools indicating that this is not the only factor that has to be considered. Doyle and Aboud (1995) found

prejudice levels to be high in a sample of children attending a school with a 30% minority population. Meanwhile, Bigler and Liben (1993) found high prejudice levels at a predominantly European-American school. Thus, these measures need to be applied to children in ethnically homogeneous schools to better determine the role played by homogeneous versus heterogeneous school environments. We predict that European-American children in strictly homogeneous European-American communities may, in fact, display implicit racial biases as well as biases regarding cross-race friendships. A study on this topic using the assessments described in this paper reveals findings that support this expectation (McGlothlin, 2004). This remains to be further investigated.

Our finding that children did not display implicit biases in their interpretations of the ambiguous stories involving moral transgressions (not sharing toys, stealing) reflects a positive trend in intergroup attitudes (Dovidio, *et al.*, 2001). Yet, in the area of friendship potential, implicit biases remain prevalent. Given that cross-race friendships are reported to be one of the few significant predictors for a decline in prejudice (Pettigrew & Tropp, 2000), this phenomenon needs to be better understood. Perceptions of similarity among others are an important aspect of friendship decision-making, and understanding how these perceptions are related to judgments about cross-race friendship potential contributes to this knowledge of children's friendships. Understanding when and how intergroup biases manifest is a first step towards changing such attitudes.

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